



AMENDMENTS TO THE CLAIMS:

Please amend claims 1, 2 and 5, and add new claim 13, as shown below.

This listing of claims will replace all prior versions and listings of claims in the
Application:

Claim 1 (currently amended): An on-wafer monitoring system capable of measuring an
operation of a plasma treatment apparatus on a wafer, said system comprising:

one or a plurality of sensor sections, a power source unit, and an I/O unit that
inputs/outputs signals from/to outside, which are provided on a silicon substrate,

wherein each of said sensor sections has a pattern portion which is a plasma treatment
target, and under said pattern portion, a plurality of electrodes ~~and insulating films~~ for
separating ions and electrons of plasma by energy, and an uppermost electrode of said
electrodes has the same potential as that of said silicon substrate,

the plurality of electrodes formed in a zigzag linear configuration, and having pores of
predetermined size formed therein, and

~~and said pattern portion said plurality of electrodes and insulating films have pores for
sensing~~

a sensor formed at the bottom of each sensor section,

wherein said power source unit takes out power from plasma potential or takes out
power from photoelectromotive force of a PLZT device.

Claim 2 (currently amended): The on-wafer monitoring system according to Claim 1,

wherein a plurality of electrodes of said sensor sections are Al electrodes, and ~~insulating
films~~ space between each of the Al electrodes ~~[[are]]~~ is insulated by γ -Al₂O₃.

Claims 3-4 (cancelled)

Claim 5 (currently amended): The on-wafer monitoring system according to Claim [[3]]13,
wherein said I/O unit inputs/outputs signals from/to outside by light.

Claim 6 (previously presented): The on-wafer monitoring system according to Claim 1,
wherein said system includes an ion energy analyzer, which has a collector electrode at
a sensor section bottom and measures ion current in the collector electrode to obtain ion energy
distribution, as said sensor.

Claim 7 (previously presented): The on-wafer monitoring system according to Claim 1,
wherein said system includes a photon detector, which detects light made incident into a
pattern by photoinduced current generated in an insulating film, as said sensor.

Claim 8 (previously presented): The on-wafer monitoring system according to Claim 1,
wherein said photon detector forms a metal thin film on said insulating film, and detects
light having energy equivalent to or more than an energy difference between the work function
of the metal and the conduction band bottom of said insulating film out of light transmitted
from the metal thin film.

Claim 9 (previously presented): The on-wafer monitoring system according to Claim 1,
wherein said system includes a photon detector that detects light by a photo diode, as
said sensor.

Claim 10 (previously presented): The on-wafer monitoring system according to Claim 1,
wherein said system includes an ion radical analyzer, which identifies radicals and ions
by detecting light emission by the collision between electrons from an electron gun and radicals
or ions, as said sensor.

Claim 11 (original): The on-wafer monitoring system according to Claim 10,
wherein said ion radical analyzer has a spectroscope for detecting light emission.

Claim 12 (previously presented): The on-wafer monitoring system according to Claim 1,
wherein said system includes a probe, which detects at least one of electron current,
electron energy distribution, ion current, electron temperature, electron density, and charge
storage amount, as said sensor.

Claim 13 (new): The on-wafer monitoring system accordingly to claim 2,
Wherein the side surface of said Al electrodes is covered with a thin oxide film.

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